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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
BLEVINS, JERRY M	
ART UNIT	PAPER NUMBER
2883	
MAIL DATE	DELIVERY MODE
10/02/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/756,183	KERSEY ET AL.	
	Examiner	Art Unit	
	JERRY BLEVINS	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,6,8,9 and 11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,6,8,9 and 11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed July 1, 2008 have been fully considered but they are not persuasive.

Specifically, the rejection of claims 1, 3, 6, and 8 from the April 1, 2008 Office Action was a U.S.C. 103(a) obviousness-type rejection. As such, the primary reference, that of US 6,194,120 to Chan et al., was relied upon to show the teachings of the claimed invention except for the changing of the layer (refractive index change or thickness change) being in response to a measurand. The secondary reference, that of US 5,647,030 to Jorgenson et al., was relied upon solely for the specific teaching, found in column 7, line 60 – column 8, line 45, of a layer changing (refractive index change and thickness change) in response to a measurand. The measurand of Chan need not be the same as the measurand of Jorgenson, as Jorgenson is merely relied upon for the teaching of a layer changing in response to any measurand, not limited to the specific measurand of Jorgenson. As such, it appears that applicants are attempting to attack the references individually when the rejection was and is related to the combination of the references. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3, 6, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,194,120 to Chan et al. in view of US 5,647,030 to Jorgenson et al.

Regarding claim 1, Chan teaches an optical sensor for sensing a measurand (Figures 1b and 2, abstract and column 8, lines 15-34, the measurand being electric field), comprising: an optical waveguide (30) having an outer cladding (50) and at least one inner core (40) disposed therein which propagates light (column 25, lines 39-57); and a D-shaped portion of the optical waveguide having a generally D-shaped cross-section (Figures 1b and 2), wherein a property of the D-shaped portion changes in response to the measurand, the property being polarization or birefringence (abstract, column 4, lines 6-14 and column 27, lines 13-26, the property being polarization); and a layer (60) disposed on a flat surface of the D-shaped portion, wherein a refractive index of the layer changes (column 25, line 65 – column 26, line 43). Chan does not specifically teach that the refractive index of the layer changes in response to the measurand. Jorgenson teaches an optical sensor for sensing a measurand wherein the refractive index of a layer changes in response to the measurand (column 7, line 60 – column 8, line 45). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the changing of the refractive index of the layer of Chan be

in response to the measurand, as taught by Jorgenson. The motivation would have been to improve the capabilities of measuring the measurand.

Regarding claim 3, Chan teaches that the measurand includes at least one of the members of the group consisting of heat, humidity, light, electric field, magnetic field, and chemicals (column 8, lines 15-34, the measurand being electric field).

Regarding claim 6, Chan teaches that a transverse outer dimension of the waveguide is greater than 0.3 millimeters (column 26, lines 15-43).

Regarding claim 8, Chan teaches an optical sensor for sensing a measurand (Figures 1b and 2, abstract and column 8, lines 15-34, the measurand being electric field), comprising: a first D-shaped waveguide having a generally D-shaped cross-section (30); a second D-shaped waveguide having a generally D-shaped cross-section (280), wherein the first and second D-shaped waveguides are optically coupled together (column 27, lines 1-26) and wherein a property of at least one of the first and second D-shaped waveguides changes in response to the measurand, the property being polarization or birefringence (abstract, column 4, lines 6-14 and column 27, lines 13-26, the property being polarization); and a layer (260) disposed between the first and second D-shaped waveguides (Figure 2), the layer capable of changing thickness (column 25, line 65 – column 26, line 43), wherein the measurand includes at least one of the members of the group consisting of heat, humidity, light, electric field, magnetic field and chemicals (column 8, lines 15-34). Chan does not specifically teach that the layer changes thickness in response o the measurand. Jorgenson teaches an optical sensor for sensing a measurand wherein the thickness of a layer changes in response

to the measurand (column 7, line 60 – column 8, line 45). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the changing of the thickness of the layer of Chan be in response to the measurand, as taught by Jorgenson. The motivation would have been to improve the capabilities of measuring the measurand.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chan in view of Jorgenson as applied to claim 8 above and further in view of U.S. Patent to Bergh, 4,386,822.

Regarding claim 9, Chan in view of Jorgenson renders obvious the limitations of the base claim 8. Chan also teaches that the first D-shaped waveguide has at least one first inner core (40) disposed therein which propagates light and that second D-shaped waveguide has at least one second inner core (280) which propagates light. Chan does not teach that the waveguides propagate light in substantially a few spatial modes. Bergh teaches an optical sensor comprising a D-shaped optical waveguide (Figure 2) wherein the waveguide propagates light in substantially a few spatial modes (column 1, lines 43-57). It would have been obvious to one of ordinary skill in the art at the time of the invention to propagate light through the waveguides of Chan in substantially a few spatial modes, as taught by Bergh. The motivation would have been to increase the bandwidth of the propagating light.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chan in view of Jorgenson as applied to claim 8 above and further in view of US 2002/0197037 to Bailey et al.

Regarding claim 11, Chan in view of Jorgenson renders obvious the limitations of the base claim 8. Chan does not teach that the first and second D-shaped waveguides include a plurality of cores. Bailey teaches an optical sensor and sensing method comprising first and second D-shaped optical waveguides wherein the first and second D-shaped waveguides include a plurality of cores (Figures 20-22). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the multiple cores of Bailey in the waveguides of Chan. The motivation would have been to increase the number of waveguiding paths (Bailey, page 1, paragraph 9).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JERRY BLEVINS whose telephone number is (571)272-8581. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Patent Examiner, Art Unit 2883

/Frank G Font/
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FGF/jmb
09/27/2008